MODIFIED ELEVA-STRUM WWTP FACT SHEET

GENERAL INFORMATION	
Permit Number: WI-0064998-02-1	**FIN**: 46918
Permittee Name and Address (if different from discharge location): Eleva Strum Joint Sewerage Commission WWTF, 202 5th Ave S, Strum, WI 54770	
Discharge Location: N4937 CTH V, Strum, WI 54770	
Receiving Waters: the surface waters of the Buffalo River in the Upper Buffalo River Watershed of the Buffalo-Trempealeau River Basin located in Trempealeau County	
Flows:	0.201 MGD **Annual Average Design Flow,** 0.099 MGD **Annual Average Flow in 2019**
Discharge Type: Existing, Continuous	
Stream Classification: Warmwater Sport Fish, Non-public Water Supply	
$Q_{(7,10)}$: 22 cfs	
Permit Application Waivers: none	

Sample Point Designation	
Influent Sample No: 701	**Sample Description**: Representative influent samples shall be collected after the mechanical screen.
Surface Water Effluent Sample No: 001	**Sample Description**: Representative effluent samples shall be collected after UV disinfection and prior to discharge to the Buffalo River.
Land Application Sample No: 003	**Sample Description**: As long as sludge is shipped to the West Central Wisconsin Biosolids Facility for disposal, representative sludge grab samples shall be collected once per year from the sludge standpipe and monitored for List 1 parameters. Sludge samples shall be collected prior to hauling and test results shall be reported on appropriate forms. Annual sludge production approximately 150 tons.

FACILITY DESCRIPTION

Facility Description: The Villages of Eleva and Strum have a combined wastewater treatment facility to serve both domestic wastewater from communities, and industrial wastewater from the North American Fly Company. The annual average design flow the facility is designed to treat is up to 0.201 million gallons per day (MGD), with an actual average influent flow of 0.099 MGD in 2019. The facility has enhanced biological nutrient removal, activated sludge, and UV disinfection. Sludge is hauled to the West Central Wisconsin Biosolids Facility. There are no operational changes proposed for the upcoming term.

The Department is proposing to modify pollutant trading for the purposes of complying with effluent phosphorus limits at Outfall 001. The Eleva Strum WWTF originally submitted a Water Quality Trading Plan WQT-2019-0016 that provides the details of this pollutant trade. The plan provides calculations and a table that shows the amount of phosphorus credits that will be available each year. Eleva Strum WWTF submitted an amendment to the plan that more accurately reflects the credits available and was approved by the Department. The permit still retains a phosphorus monthly average concentration effluent limit of 1.0 mg/L that acts as the minimum control level and applies to outfall 001. Significant effluent monitoring or limit changes that will continue from the current permit are as follows: 1) new effluent phosphorus limit compliance methods based on water quality trading credits, added an associated phosphorus credits compliance schedule, 2) the removal of copper and hardness monitoring, 3) the addition of effluent weekly geometric mean limit for fecal coliform, 4) addition of total nitrogen, nitrate+nitrite nitrogen, Kjeldahl nitrogen monitoring, and weekly and monthly average limits for ammonia nitrogen, 5) addition of an acute WET limit. The additional limit types for fecal coliform and ammonia nitrogen have been added to comply with NR 106.07(3).

Current paper the public notice will be published: Trempealeau Times, 36435 Main St. P.O. Box 95 Whitehall, WI 54773. See associated public notice document for additional procedural information.

Significant Industrial Loading? North American Fly Co.
Reason Modified: Eleva Strum annual phosphorus credits in the WQT Plan updated with a new amendment and reflected in the permit requirements

SUBSTANTIAL COMPLIANCE DETERMINATION

	Compliance	Comments
Discharge Limits	**Yes**	
Sampling/testing requirements	**Yes**	
Groundwater standards	**n/a**	
Reporting requirements	**Yes**	
Operator at proper grade	**Yes**	
Compliance schedules	**Yes**	**WQT Plan conditionally approved 19 Dec 2019**
Other:	**n/a**	
Enforcement considerations	**None**	
In substantial compliance? yes	**Concurrence: Jarrod Nelson**	**Date: 30 Jan 2020**

SUBSTANTIAL COMPLIANCE DETERMINATION-LAND APP

	Compliance	Comments
Discharge Limits	**Yes**	
Sampling/testing requirements	**Yes**	
Groundwater standards	**n/a**	
Reporting requirements	**Yes**	
Compliance schedules	**n/a**	
Other:	**n/a**	
Enforcement considerations	**None**	
In substantial compliance? Yes	**Concurrence: L Hinke Date: 02/03/20**	

INFLUENT MONITORING / LIMITATIONS

Sample Point Location: Representative influent samples shall be collected after the mechanical screen.			
Sample No: 701	**Sample Description**: INFLUENT AFTER SCREEN		
PARAMETER	**LIMITATION**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**
Flow	MGD	Daily	Continuous
BOD_5	mg/L	3/Week	24 Hr Flow-Prop Comp
TSS	mg/L	3/Week	24 Hr Flow-Prop Comp
Explanation of influent changes from last permit: none			

EFFLUENT MONITORING / LIMITATIONS

Outfall Location: South bank of Buffalo River, 1 mile upstream of Missell Rd Bridge			
Sample Point Description: Representative effluent samples shall be collected after UV disinfection and prior to discharge to the Buffalo River.			
Outfall No: 001	**Sample Description**: PRIOR TO DISCHARGE		
PARAMETER	**LIMITATION**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**
Flow rate	MGD	Daily	Continuous
BOD_5	45 mg/L, weekly avg 30 mg/L, monthly avg	3/Week	24 Hr Flow-Prop Comp

Suspended Solids	45 mg/L, weekly avg 30 mg/L, monthly avg	3/Week	24 Hr Flow-Prop Comp
pH	9.0 su Daily Maximum 6.0 su Daily Minimum	Daily	Grab
Fecal Coliform May 1 – Sept 30	400#/100 mL Monthly Geo Mean 656#/100 ml Weekly Geo Mean	Weekly	Grab
Nitrogen, Ammonia Total	7.8 mg/L daily Max 7.8 mg/L weekly Avg 7.8 mg/L monthly Avg	3/Week	24hr Fl Prop Comp
Total Kjeldahl Nitrogen Apr-June 2020 July-Sept 2021 Oct-Dec 2022 Jan-Mar 2023 Apr-June 2024	mg/L	Annual, rotating quarters	24 Hr Flow-Prop Comp
Total Nitrite + Nitrate Nitrogen Apr-June 2020 July-Sept 2021 Oct-Dec 2022 Jan-Mar 2023 Apr-June 2024	mg/L	Annual, rotating quarters	24 Hr Flow-Prop Comp
Total Nitrogen Apr-June 2020 July-Sept 2021 Oct-Dec 2022 Jan-Mar 2023 Apr-June 2024	mg/L	Annual, rotating quarters	Calculated
Phosphorus, Total	1.0 mg/L Monthly Avg	3/Week	24 Hr Flow-Prop Comp
Phosphorus, Total	lbs/day	3/Week	Calculated
WQT TP Credits	lbs/month	Monthly	Calculated
WQT TP Computed Compliance	0.225 mg/L Monthly Avg 0.075 mg/L 6-Month Avg	Monthly	Calculated
WQT TP Computed Compliance	0.126 lbs/day 6-Month Avg	Monthly	Calculated
WQT TP Annual Credits Used	79 lbs/yr Annual Total 2020 238 lbs/yr Annual Total 2021 238 lbs/yr Annual Total 2022 238 lbs/yr Annual Total 2023 238 lbs/yr Annual Total 2024	Annual	Calculated
Acute WET Apr-June 2020 July-Sept 2021 Oct-Dec 2022 Jan-Mar 2023 Apr-June 2024	1.0 TUa	Annual, rotating quarters	24hr Flow- Prop Comp
Reason Modified: Eleva Strum annual phosphorus credits in the WQT Plan updated with a new amendment and reflected in the permit requirements.			

Explanation of effluent changes from last permit: 1) new effluent phosphorus limit compliance methods based on water quality trading credits, associated phosphorus credits compliance schedule, 2) the removal of copper and hardness monitoring, 3) the addition of effluent weekly geometric mean limit for fecal coliform, 4) addition of total nitrogen, nitrate+nitrite nitrogen, Kjeldahl nitrogen monitoring, and weekly and monthly average limits for ammonia nitrogen, 5) addition of an acute WET limit.

Explanation of limits and monitoring:

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N): The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the "Guidance for Total Nitrogen Monitoring in Wastewater Permits" dated October 1, 2019. Annual tests are scheduled in rotating quarters.

Weekly and average limits for ammonia nitrogen, and the weekly geometric mean limit for fecal coliform were added to comply with ss NR 106.07 and NR 205.065(7) Expression of limits.

Limits were determined using chs. NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable). The effluent limits for BOD5, TSS, fecal coliform, and pH are based on NR 210. Limitations for these substances are protective of the receiving water uses and associated water quality criteria. For more information see the November 4, 2019 memo from Wade Strickland to Angela Parkhurst, titled "Water Quality Based Effluent Limitations for the Eleva Strum Joint Sewerage Commission WPDES Permit No. WI-0064998-02."

Chlorine monitoring or limits: None.

Total Nitrogen monitoring or limits: Nitrogen ammonia limits are required. Annual monitoring for total nitrogen, nitrite + nitrate nitrogen, and TKN is required per the October 2019, "Guidance for Total Nitrogen Monitoring in WW Permits (2019)" in the following rotating quarters: in 2nd qtr Apr-Jun 2020, 3rd qtr July-Sept 2021, 4th qtr Oct-Dec 2022, 1st qtr Jan-Mar 2023, and 2nd qtr Apr-Jun 2024.

Phosphorus monitoring or limits: Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Currently in NR 217 Wis. Adm. Code there are two methods used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL) and a water quality based effluent limit (WQBEL). The WQBELs are 0.225 mg/L (monthly average), and 0.075 mg/L & 0.126 lbs/day (6-month averages). These final effluent limits were derived from and comply with the applicable water quality criterion. The phosphorus TBEL of 1.0 mg/L will be retained in the permit as a minimal control measure effective throughout the permit term.

The Eleva Strum Joint Sewerage Commission will utilize Water Quality Trading to comply with the water quality based effluent limitations for total phosphorus for their discharge to the Buffalo River. The permit includes terms and conditions related to the final Water Quality Trading Plan (WQT-2019-0016) (and approved amendment 1) submitted by the permittee and conditionally approved by the Department on 12/19/2019, and Amendment 1 conditionally approved July 31, 2019. The WQT plan indicates that the permittee proposed a point to nonpoint trade through water quality trading credits generated from whole field management practices and conservation easements with local dairy farmers and landowners. The following total 'WQT TP Credits' available are designated in the approved WQT Plan and vary by year:

Available Phosphorus Credits per WQT-2019-0016, Amendment 1

Year	Available TP Credits (lbs/yr)
2020	79
2021	238
2022	238
2023	238
2024	238

The existing phosphorus water quality based effluent limits of 0.225 mg/L monthly average and 0.075 mg/L 6-month average and the proposed 0.126 lbs/day 6-month average now appear as 'WQT TP Computed Compliance" and the permittee is required to report "WQT TP Credits" which are both effective upon permit issuance. (Compliance with the 6-month limits will be evaluated on June 30 and December 31 each year, starting with June 20, 2020.) Additional WQT subsections in the permit provide information on compliance determinations, annual reporting and re-opening of the permit.

Copper/Hardness: No limits or monitoring required for copper due to levels discharged are far below calculated limits. Since the facility currently provides no active treatment for copper, discontinuing the current limit is unlikely to result in an increase in copper beyond the calculated limit due to treatment. Hardness monitoring is no longer required since it was related to the copper monitoring.

Temperature: No limits or monitoring required.

BIOMONITORING REQUIREMENTS

Is biomonitoring required at this outfall? Yes, annual Acute WET tests in rotating quarters with a WET limit of 1.0. For more information see the November 4, 2019 memo from Wade Strickland to Angela Parkhurst, titled "Water Quality Based Effluent Limitations for the Eleva Strum Joint Sewerage Commission WPDES Permit No. WI-0064998-02."

IWC= N/A	**Primary Control Water Location**: Buffalo River

If the stream class at the discharge point is other than Fish and Aquatic Life, how far down stream is the next Fish and Aquatic Life stream? It is fish and aquatic life.

DISINFECTION

Is disinfection required for this discharge? Yes

Frequency: Seasonal.	**Type of disinfection**: Ultraviolet.

Discussion: None

LAND APPLICATION SECTION

All sludge management requirements were determined ch. NR 204, Wis. Adm. Code

Sample Point: 003	**Sample Description**: As long as sludge is shipped to the West Central Wisconsin Biosolids Facility for disposal, representative sludge grab samples shall be collected once per year from the sludge standpipe and monitored for List 1 parameters. Sludge samples shall be collected prior to hauling and test results shall be reported on appropriate forms.				
Sludge # (3 digits)	**Sludge Class (A or B)**	**Liquid or Cake**	**Pathogen Reduction Method**	**Vector Attraction Reduction Method**	**Reuse Option**
002	A	Liquid	Fecal Coliform	N/A	WCWBF
Sludge Management Adequate? yes					
Sludge Storage Required? No, it is hauled.					
Radium Requirements: Is radium-226 present in the water supply at a level greater than 2 pCi/L? No					
Is a priority pollutant scan required? No					
Quantity of Sludge used/disposed of annually: 20 dry tons hauled					

PROPOSED COMPLIANCE SCHEDULES SECTION

Annual Water Quality Trading (WQT) Report

As specified in the Surface Water section of the permit, the permittee shall submit annual Water Quality Trading Reports in accordance with the following schedule.

Required Action	Due Date
Submit Annual WQT Report: Submit 1st annual WQT Report that shall cover the previous calendar year of the permit term. The WQT report shall include the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspections performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan.	01/31/2021
Submit Annual WQT Report: Submit 2nd annual WQT Report.	01/31/2022
Submit Annual WQT Report: Submit 3rd annual WQT Report.	01/31/2023
Submit Annual WQT Report: Submit 4th annual WQT Report.	01/31/2024
Submit Annual WQT Report: Submit 5th annual WQT Report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.	01/31/2025
Annual Reporting After Permit Expiration: In the event that this permit is not reissued prior to the expiration date, the permittee shall continue to submit an annual WQT Report to the Department by January 31 of each year covering the total number of pollutant credits used, the source of pollution reduction credits, a summary of annual inspection reports performed, and identification on noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.	

Explanation of Compliance Schedule: Reports are required, starting in 2020, that include the following information:

- Verification that site inspections occurred;
- Brief summary of site inspection findings;
- Identification of noncompliance or failure to implement any terms or conditions of the permit or trading plan that have not been reported in discharge monitoring reports;

- Any applicable notices of termination or management practice registration; and
- A summary of credits used each month over the calendar year

SPECIAL REPORTING REQUIREMENTS

See permit for water quality trading requirements for reporting.

OTHER COMMENTS

Additional text regarding Water Quality Trading for the public notice document is as follows:
"Water Quality Trading: The Department has tentatively decided to approve the permittee's water quality trading plan and allow the permittee to demonstrate compliance with the water quality based effluent limits for total phosphorus as specified in Water Quality Trading Plan (WQT-2019-0016).

Expiration date: 03/31/2025
Prepared by: Angela Parkhurst
Date: 03/30/2020
Proposed Modification Date: 12/01/2020